In our publication of 1954 we preferred Burlend's derivation of the kidney of vertebrates to the hypothesis of Balfour and Sedgwick regarding the fundamental structure of this organ. For many years, however, the hypothesis of Balfour and Sedgwick has been fairly generally accepted. It was therefore necessary to enlarge the factual basis of our conclusions of 1954. In this paper some more evidence is offered. Our choice fell on the herring, because it is fairly akin to the milkfish, Chanos chanos (Fork.).

Fig. 1 shows a graphical reconstruction of the anterior part of the kidney of a larva of 10 mm. The kidney is formed by two nephrons; the glomeruli and the Bowman's capsules have fused, the tubules run almost straight in caudal direction, a condition we also found in some other primitive Teleostei (1938). The initial sections of the tubules, as far as A, are lined with the same sort of cells, out of which the Bowman's capsule is made up. The rest of the tubules, as far as indicated in the drawing, is formed by a cuboidal epithelium with brush-border. The glomerulus lies in a shunt of the aorta, the efferent vessel meeting the aorta again near the root of the art. mes. ant. Its position is indicated with regard to the ventral roots of the spinal nerves, as rudiments of the vertebrae are still lacking. In numbering these ventral roots we have taken into account that in Teleostei they are preceded by three pairs of spino-occipital nerves.

1 The dimensions refer to material fixed in Bouin's fluid, contraction ± 20%.
In larvae of about 20 mm, fig. 2, the efferent vessel of the glomerulus no longer joins the aorta, its opening having shifted a little way along the initial part of the art. mes. ant. This way of blood supply is also found in older larvae and as long as this condition continues the glomerulus remains conspicuous for its size. Compared with the previous stage it has shifted in caudal direction. The anterior wall of the Bowman's capsule shows a depression. We should not have paid any attention to this groove, attributing it to fixation, if it did not occur similarly in the following stage. Apparently the glomerulus has been dragged along by the blood vessels shifting backwards. The Bowman's capsule has not been able to keep up with this movement, being anchored as it is to the nephric ducts. The wall of the Bowman's capsule generally consists of flagellate, cuboidal cells with nuclei situated apically. Where the capsule passes into the archinephric duct,

Fig. 1. Herring larva 10 mm, reconstruction of anterior part of kidney, × 185, dorsal view; P. pronephric glomerulus, n.d. archinephric duct, II–V indication of ventral roots of spinal nerves.